

An Inaugural Dissertation, in Hemoptysis
For the Degree
Of Doctor of Medicine

addressed to the Medical Faculty
of the University
of Pennsylvania

By. Dated March 12. 1829

Henry, Daingerfield. Magill
of
Virginia

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1858

18th General Congress

of the United States

in Session at Washington

the 1st

of January 1822
a report of the Committee on the
subject of the petition for the
establishment of a national
university

by
J. M. Smith

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To the Medical Professors
of the University
of Pennsylvania

This Voca-

-ture is humbly dedicated as a feeble mark
of respect & gratitude; for the instructions
which he has received from them

By

The author

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Definition -

The term *Hæmoptysis* is derived from two greek words
aima. blood & ptyeo to spit, and is a name which is ap=
-plied to one of the important affections to which
our fragile frames are subject. under it is arran=
-ged these extravasations of blood ~~which~~ from the
throat, the trachea, and the Lungs. It therefore includes
three species -

- 1st *Hæmorrhage* from the Pance.
- 2^d *Hæmorrhage* from the Trachea
- 3^d *Hæmorrhage* from the Lungs.

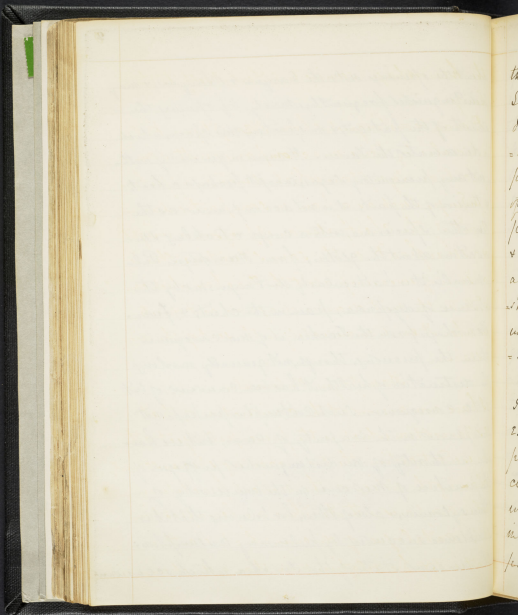
These distinctions derive their importance, not only
from the influence they have over the medical treat=
-ment of the disease, but also from being connected
with the cause of humanity; a knowledge of them
frequently enabling the physician to remove cau=
-sive cause from the mind of his patient, & restore
him to health & hilarity.

I shall commence with *Hæmorrhage* from the Pance.
This species consists in an oozing of blood from the space

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about the openings into the Larynx & Pharynx, & may be distinguished frequently, merely by opening the mouth of the patient, & inspecting this space, which is denominated the Fauces. It comes on generally without any premonitory signs, except perhaps a heat & tension of the part; it is not accompanied as the two other species are, with a cough & tickling sensation about the glottis; from Haemoptoe, Pulmonalis it is particularly distinguished by the absence of dyspnoea, pain in the chest, & fever.

Haemorrhage from the Trachea is of more consequence than the preceding, though, not generally involving the destruction of health, it has been considered of but little consequence. Such contempt is perhaps not misplaced in the majority of cases, but we have the authority of our distinguished professors of the practice of medicine in the University of Pennsylvania, & also of others, for believing that it is sometimes succeeded by pulmonary consumption: the disease state of the Trachea which occasions

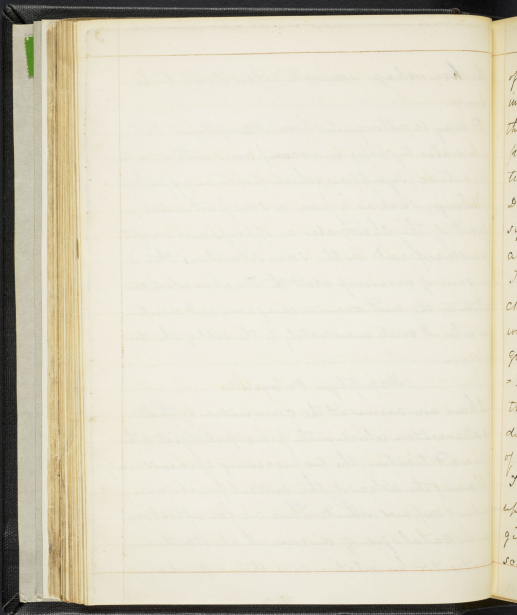


the hæmorrhage seeming to extend itself to the Lungs.

It may be distinguished from *Hæmoptysis Pulmonalis* by being unaccompanied with some peculiar symptoms which denote an affection of the Lungs, such as a pain in some particular part of the Chest, also an oppression or weight & a sense of heat in the same situation: There is a sense of uneasiness about the Trachea which constitutes the most decisive diagnosis, as it directs us when it exists immediately to the seat of the disease.

Hæmoptysis Pulmonalis —

I have now arrived at the consideration of that extravasation which is the principal object of the present treatise, the two preceding species, scarcely claiming the notice of the medical practitioner when compared with it. There are few affections in the catalogue of diseases, which affect a patient & his relatives more than a discharge

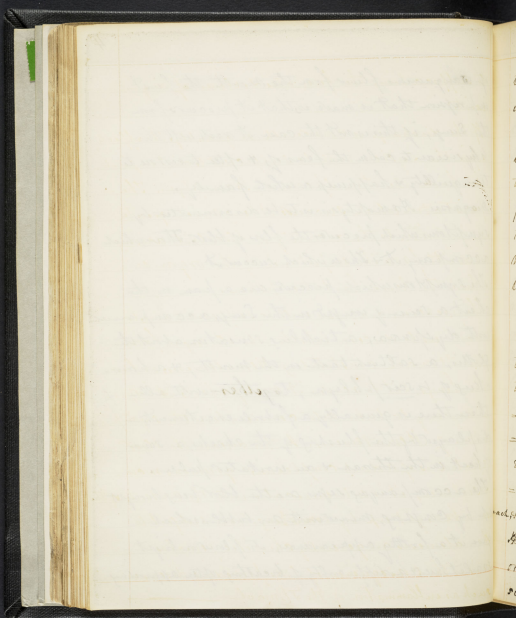


of sanguinous fluid from the mouth, the first impression that is made is, that it proceeds from the Lungs, if this is not the case, it rests with the physician to calm the fears of, & often to restore to tranquillity & happiness a whole family.

Diagnosis. Haemoptysis is to be discriminated by symptoms which precede the flow of blood. Those which accompany it. & Those which succeed it.

The symptoms which precede are a pain in the chest a sense of weight in the Lungs, accompanied with dyspnoea, a tickling sensation about the glottis, a rathless taste in the mouth, & a haemorrhage of viscid phlegm, together with all these there is generally a febrile excitement, displayed by the flushing of the cheeks, a sense of heat in the thorax & an irritable pulse.

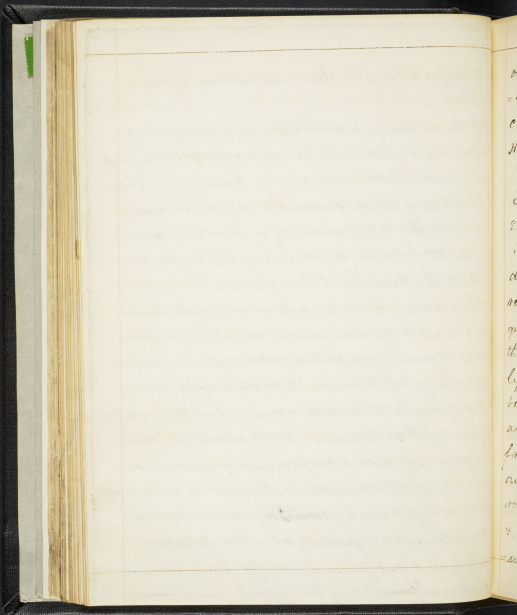
The accompanying signs are the blood being brought up by coughing, mixed with air bubbles, which give it a frothy appearance, its colour a bright scarlet hue, & a difficulty of breathing after expectorating.



to suffocation, the fever also declines if any — exists.

If the discharge is considerable in quantity, the effects upon the system will be sufficient to distinguish this from the other species of Hemoptysis. The prostration which succeeds it being much greater in proportion to the quantity of blood lost, arising no doubt from the importance of the organ in which the lesion has taken place.

The preceding diagnosis will be sufficient also to enable us to discern whether the bleeding is from the Stomach constituting Hematemesis, or from the Lungs, but to render it more perfect, it is necessary to take into consideration the symptoms of Hematemesis. In this disease the blood expectorated is of a dark complexion, & gummy in consistency, it is intermixed also with the contents of the stomach is brought up by vomiting; those subject to Hematemesis are generally chlorotic females — or it is the consequence of some preceding disease such as inflammation of the Stomach —



or of swallowing poisonous substances — a knowledge of all these circumstances will in most cases enable the practitioner to discriminate — Hemoptysis from all other hemorrhages

Causes —

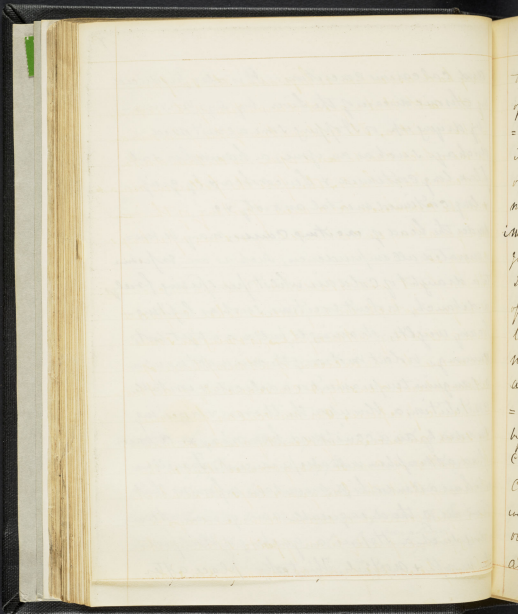
These may be divided into Remote or predisposing — & Proximate causes —

The Remote causes are all habits, & structural derangements, which tend to weaken the Lungs, & render them incapable of supporting the immense quantity of blood which is constantly flowing through them. These habits are a sedentary & sturious life, those employments which require a constant bending of the body forward, such for instance as the weavers or the shoemakers trade, Plethora, frequent exposure to changes of temperature, breathing an atmosphere very much heated, as in a stove room for instance, frequent attacks of Croup, & intemperate living. The structural derangements are Tubercles, a contracted thorax —

* Note. I know an instance of Hemiplegia, which I consider
very strongly, proceeds originally from a diseased state of the
Trunk. This has perhaps, returned to the cause, which being slight
irritates the Glut, to such a degree as to produce the Hemiplegia.
The person in whom it occurs has frequently to submit ^{several times}
to an operation for removal of the Trunk.

And calcareous concretions. It is also produced by chronic diseases of the Liver, by Dyspepsia, - by drying up or stopping some accustomed - discharge, such as an issue, a hemorrhoidal flux long continued & Scurvy & by grip - & long continued mental anxiety &c.

Under the head of exciting causes, may be enumerated all imprudences, such as an exposure to a draught of cold air whilst perspiring freely, a debauch, violent exertions, such as lifting heavy weights, straining to pull on a tight boot, running, violent motions of the mind acting upon a sanguine temperament, or a delicate & irritable constitution; a blow upon the thorax & exciting suddenly an accustomed hemorrhage - & a rarefied atmosphere will also produce it. Travellers who have ascended high mountains inform us that that one of the disagreeable consequences attending such a step, is a gushing of blood from the mouth & nostrils. This took place after

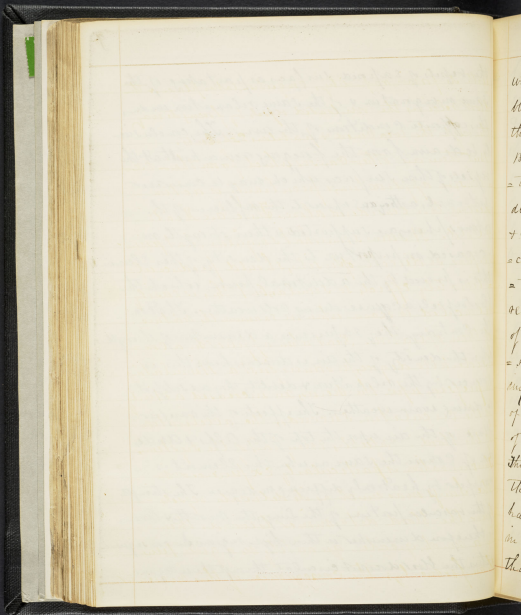


they had ascended so high above the surface of the earth that a great diminution of the Atmospheric pressure existed. The explanation of this phenomenon is one which can be based upon no certain data or demonstrable facts & therefore the following remarks may be considered as a mere sporting of the ~~imagination~~ imagination, uncontrolled by reason & perhaps justly so.

It is a fact well established that the increase of vigour which we experience when exposed to a cold & dry atmosphere, is owing in some measure to the increase of atmospheric or atmospheric density, & consequently of atmospheric pressure. Our muscular fibres are by such an increase of density rendered more compact & of course invigorated. But on the contrary, that the languor & lassitude to which we experience on a warm summer day is - owing principally to an opposite state of the atmosphere. We may occasionally consider

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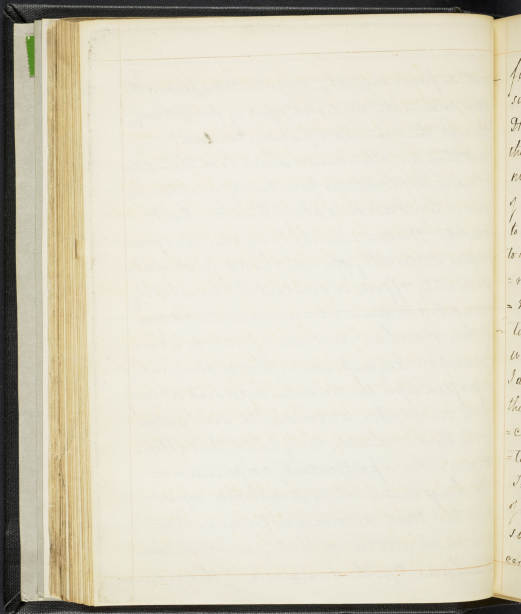
the vessels of exposed surfaces as partaking of the same invigoration & of the same relaxation under the opposite conditions of the air. The conclusion to be drawn from the foregoing remarks is that the vessels of those surfaces which may be considered external, either exposed to the influence of the atmosphere, are supported & their strength increased in proportion to the density of this element: this is proved by the additional power which the blood vessels acquire during cold weather. That on the contrary, they experience a diminution of strength, when the density of the air is diminished; this is evinced by the relaxation & debility they are subject to during warm weather. The effects of the rarified state of the air upon the top of the Alps & Andes are of course the same as when this element is rarified by heat only differing in degree. The strength of the vascular portions of the Lung, the Mouth, & Throat, is therefore diminished in these high regions: in consequence of this the blood does not circulate through these organs.



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with its former rapidity, Congestion takes place, & the blood relieves the overloaded vessels by forcing its way through the weakened & patulous Exhalents.

But there are other Causes which from their extensive application, & peculiarity of action - deserve to be considered alone. These are Heat & Cold. It seems somewhat singular, that principles so directly opposite, should produce ultimately effects so similar, but this is easily reconciled to reason when we examine the nature of their operation. Heat when applied in a considerable degree, produces first a stimulating impression upon the Nerves, an increased activity of the Circulation succeeds, the acceleration of the blood is rapid, every part of the system, & more particularly experienced in the Lungs in as much as its delicate vessels - have the blood determined towards them - in a much greater quantity in a given time than formerly; the consequence of this increase



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force is loss of tone, Congestion, cancer or hemorrhage
 succeeding produced by this Congestion.

It has been supposed that heat acts by rarefying
 the blood. There can be very little doubt, that it
 gives its effects in some measure to the diminution
 of density which the air sustains when subject
 to its action, but the idea that its operation is owing
 to a rarefaction of the blood is disproved by the expe-
 = riments of Sauvages & Haller. These physiologists
 = enclosed a portion of blood in a thermometrical
 tube & found that at the temperature of boiling
 water it did not expand too the part of its bulk.
 I am therefore inclined to adopt the opinion of
 the celebrated Dr. Parr that heat acts by produ-
 = cing a relaxation of solids & diminishing resist-
 = tance.

The impression of Cold is directly opposite to that
 of heat, but its ultimate effects are precisely
 similar. When it is applied to the body it produ-
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from the surface to the central vessels, these vessels are by this slightly engorged, the lungs of course partaking of this engorgement; it operates also immediately upon the mucous lining of these viscera, especially when it is combined with moisture, & lessens the sensibility of the exhalents or in other terms relaxes & debilitates them, rendering them in this manner less able to resist the tendency which the blood has to force its way out of the engorged vessels --

The Proximate cause of Haemoptysis is involved in considerable obscurity; An investigation which has for its object the removal of this obscurity, being dependant mainly upon mere conjectures, leaves the subject in a state of doubt & uncertainty --

Authors impute four proximate causes, 1st Reticulation 2^d Disruption or transudation 3^d Diabrosis or erosion & 4th Anastomosis --

That doctrine which inculcates that Reticulation and

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Erosion are the most frequent causes of hemorrhage was for a long time almost universally promulgated, & an objection to it was considered as scepticism unworthy of reputation. But more recent times have seen the establishment of the opinion which was so ably advocated by Bichat & which is taught by the able physician who occupies the Chair of the Institutes & Practice of Medicine in the University of Pennsylvania to his pupils - Bichat asserts that in no instance of spontaneous hemorrhage could he discover upon dissection - the slightest appearance of erosion, although he macerated & washed the surfaces with the greatest care, & employed a microscope in examining them. 2^d that in squeezing the mucous surface of the uterus in women who had died during menstruation he pressed out a number of small drops of blood which manifestly came from the mouths of the exhalants - 3^d that hemorrhage sometimes takes place

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from free surfaces where the exhalents are evidently in fault. This renders it probable that the same thing occurs in mucous membranes.

4th. that if in active hemorrhage we admit of the probability of a rupture, how can we suppose it to take place in passive hemorrhage, where the power of the vascular system is almost destroyed. 5th. that it is difficult to reconcile with the doctrine of rupture many of the phenomena of hemorrhage such as the rapidity with which it has disappeared in one part & reappeared in another.

I will now close these proofs with a few lines from Luccan which are peculiarly striking & admirably express the fact, that blood may exude from every exhalent in the human system; in cases of extreme debility & exhaustion.

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Et patula nares: sudor rubet: omnia plenis
 Membra fluent: Venis: totum est prostratum corpus

Periods at which hæmorrhagia Pulmonalis
 is most apt to occur—

It is a remarkable fact & one which has very much en-
 -gaged the attention of Physicians, that Hæmoptysis
 is very much inclined to make its appearance at that
 period of life, when a change from boyhood to manhood
 is taking place; which period is denominated Puberty.
 This change has been the cause of much speculation
 & has been a theme upon which the Imagination
 has enjoyed untrammelled licence. This liability to Hæ-
 -moptysis is attributed to Plethora, which is very frequent-
 -ly exists at puberty. The frequent occurrence of
 a plethoric condition at this period has occasioned
 much theorising, but I shall only mention one
 of the theories which have been advanced & this is
 Bichat's.

This author observes, "as the Lungs are connected
 in an intimate though unknown manner with

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"the genital organs, they acquire with them a pre-
 "dominance at puberty, & partake of the increase
 "of vital energy which they experience at this period:-
 "It is at this time that pulmonary affections com-
 "mence; as those cases which in an adult would
 "produce gastric affections, now generate pulmonary
 "diseases.

The imposing effect which every observation coming
 from one so distinguished produces gives to this opinion
 an authority which few will venture to object to, but
 I am induced to adopt it not by this effect, but on account
 of the applicability of his ideas in explaining the
 fact now under consideration.

That the genital organs have an intimate sympathetic
 connection with the thorax & its contents, is evinced by
 the effects which a development of these organs have
 upon the voice; the expansion & enlargement of the
 chest & lungs at the period of this development; and
 by an enlargement of the mammae in females at
 puberty, but more particularly at a certain —

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Stage of pregnancy viz when the period of parturition approaches.

It is probable therefore that this development excites the system to new & greatly invigorated motions. Of this invigoration the blood vessels must of course largely partake. The increase of force with which they act may be often disproportionate to the strength of the delicate vessels of the lungs, which from their situation with regard to the rest of the circulating system, & the duties they perform, must sustain the greater portion of the burthen under these circumstances. The expansion which the chest is undergoing at this period invites also a greater proportion of blood to them than usual; the two causes combined debilitate the vessels of the lungs, congestion ensues, & lastly hæmorrhage.

With regard to the fact that Hæmoptoe is apt to occur periodically it is proper that I should here say something. Cullen in his First Lines observes that hæmorrhage sometimes takes place at stated periods. Dr Mead

noticed the same fact but it is from purely that — we derive the most decisive information upon this subject.

Among the many instances says the Dr which I have lately seen there is one which deserves to be recorded. A man on Burlington Street has a cough for some time, which brought on hæmoptoe. This continued for six weeks & finally degenerated into — a regular monthly eruption of blood. He discharges about 8 ounces of blood every full moon.

He also relates the case of a Capt Richard Boyle of the 3^d Regiment of Guards who was attacked in London on the 20th of January from straining to pull on a boat. He has many repetitions of the attack — after occurring from the first. These attacks become at last so periodical as to return at or near the period of every full moon.

This case tends to justify also the opinion which Dr Mosely advances viz that the moon has considerable influence on hæmoptoe. We may account, it is true for some

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of the repetitions by supposing that fortuitous circumstances combined to produce them at the period of full moon; but such a number of occurrences at this particular ^{time} cannot in this way be explained. There is another circumstance which may be related in this place.

It is a remarkable fact that Haemoptysis almost invariably makes its first attack after the patient has returned to bed, in the dead of night, when a perfect rest both of body & mind prevails. Three out of four cases which are known to myself took place at this time. One of them proved fatal by Strangulation & another of them was the precursor of a disease, which I have good reason to suppose was inflammation of the Bronchiae, this destroyed the patient by producing effusion.

Prognosis —

It is very difficult to form a prognosis with regard to Haemoptysis, as the more material circumstances which would afford a criterion, do not present themselves generally, until some time after its occurrence.

The mere hæmorrhage very rarely destroys, though this is occasionally the event of it. The physician cannot in most cases form a prognosis from the first hæmorrhage for all though circumstances may be favorable at this time, yet unforeseen occurrences frequently destroy our best prospects & vice versa. The following considerations however may determine our opinion. 1st If the patient has an hereditary predisposition to Phthisis pulmonalis; a Scrophulous diathesis, evinced by a fair complexion, thick lips, mild blue eyes, & light complexion & hair; or a defective chest, the prognosis is very unfavorable. If the hæmorrhage returns frequently, & is succeeded by a cough with a spitting of purulent ^{matter} & a constant pain in one part of the Lung may determine that Phthisis pulmonalis has ensued. If the disease occurs in an emaciated & cachectic person, the prognosis is very unfavorable; the hæmorrhage itself may in this case be fatal. The more favorable prognosis is the disappearance of the hæmoptoe, & dyspnoea. The discharging

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produced by some entirely accidental cause. Its being
 vicarious & occurring in a constitution which we have
 every reason to believe is untainted by a scrofulous
 diathesis, the habits of the patient being good. All
 these circumstances taken into consideration will
 generally make us to judge of the prospects of our
 patient.

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This resolves itself into two divisions - viz into -
1st the treatment proper during the hæmorrhage -
2^d that which is required after it has been arrested
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When we are called to see a patient who is attacked
with hæmoptysis, if this is a tall violent man, the
blood flowing from his mouth his respiration obstructed, &
his pulse greatly accelerated; he complains also
of something which feels like a load upon his lungs -
If he has retired to rest & the extravasation occurs whilst
he is asleep which it most generally does, he is
= aroused by pain & oppression in the Thorax & expe-
= riences also a tickling sensation about the fauces.
This brings on a coughing, by which the blood is discha-
= ged

The attack is often strictly febrile in its nature. -
It is ushered in by a chill, accompanied with cold
extremities, lassitude, & debility. This is succeeded
by a fever together with its effects upon the system
generally. The paroxysm is completed by the effusion

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of blood, which may be considered as bearing the same relationship to the preceding stages as the sweating at the close of an intermittent paroxysm.

If we see the patient before the extravasation has taken place & from the symptoms have reason to suspect a determination to the chest, the obvious indication is to bleed copiously. It is necessary also if the local symptoms are very threatening, to apply cups to the chest, which are to be repeated if required, or a blister substituted. The bowels should be attended to, & kept freely open by saline cathartics. If the discharge of blood has occurred before we arrive, our first step must be to arrest it. The most important remedy under such circumstances is blinding from the arm.

The celebrated Helman from a priori considerations doubts the propriety of the practice not being able to conceive how opening a drain, whilst we already exist, should arrest this last. But the fact is explained in the following extract from Dr. Chapl. Lectures. By pinning a vein in the arm (says the Dr) we invite an afflux of blood to that part, on the principle of revulsion check

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the hemorrhage in any other part; he concludes with observing that the solution of the problem is perfectly immaterial; the fact being almost universally, correct.

In the more violent cases it is essential that the bleeding be copious; the tendency which the blood has to the lungs not being overcome by any other than a more powerful attraction in another direction. Small bleeding, says Dr. Chap^r only serve to harrow & debilitate the patient without contributing to the cure; My practice (he continues) in cases where it is necessary to afford immediate relief is to take at once from a large orifice so much blood as to produce a permanent impression. Common salt may be used advantageously at this time. The mode of its action is very obscure, but it operates probably by stimulating the Pancreas & Pharynx & producing a determination to those parts. The mode of using it is a matter of some importance, as its effects are influenced by it. It is to be used as follows a tea spoonfull of the dry salt is to be taken into the mouth in small portions, dissolved upon the tongue & afterwards swallowed —

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Unicating applications to the chest are highly recommended, indeed there is very little doubt that they are important auxiliaries in arresting the flow of sanguineous fluid - as a blister (says Dr Parr) will often prevent, & will sometimes lessen Pulmonary hemorrhage & is indeed a very unequivocal remedy. Practitioners disagree very much as to part to which they ought to be applied, some contending that the extremities are the proper situations for their application; Thus, they, will be of little utility unless placed upon the chest. This latter opinion is the one which has been generally adopted. Indeed it may be laid down as a general rule that in all local diseases where blisters are indicated, we should apply them as near to the seat of the disease as possible. It is only in general affections that we can apply them with propriety to the extremities.

Cold applications to the Thorax have also been highly recommended, but I should doubt the propriety of

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their use, except in urgent cases. Cold is very significant to discover Lungs, & therefore should be used sparingly & cautiously. It has indeed been advised to wrap the whole body in a sheet wet with cold water in extreme cases. Such cold practice is perhaps justifiable under these circumstances but only — under these circumstances.

Many years ago Saccharum Saturni bore a high reputation in this Complaint & was generally used it being presumed that its not injurious effect when taken into the Stomach would extend to the Lungs. But owing to the reports of Sir Geo. Baker, it was afterwards viewed as a deadly poison & its use abandoned. The late Dr. Barton by stating to the public the result of his experience & giving his distinguished authority with regard to the propriety of its use succeeded in dissipated these idle notions in this Country & fully established ^{its} efficacy.

But in consequence of this its use has become perhaps too indiscriminate; Physicians employing it upon all occasions

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& frequently without any attention to the condition of the system. Bleeding should always precede the use in an excited condition of the vascular system. Dr. Chapt. assumes upon this subject that if the force of the Arteries be not previously reduced, Leech will not only be inefficient but even injurious; nor will a single bleeding answer it is the common practice to bleed as long as any arterial excitement exists. After this has been reduced Leech may be administered. It cannot be considered applicable as long as the bleeding is profuse. It would indeed, be wise to use it under such circumstances. Saccharum Saturni may be taken in consideration does without injury. a Troach of it has been swallowed by mistake without producing any other effect than an active purging.

Alum has been much prescribed & considering its powerful astringent properties, one would suppose a priori that it is a very valuable remedy. But I have been taught to put but little confidence in its powers, in this species of hemorrhage. It is certainly not

applicable to profuse hæmorrhage & it is therefore
if ever at all only to be given in the milder cases;
or to move some ones after the bleeding has been considerably
diminished by more active remedies.

For a long course of time Digitalis enjoyed great reputation
as a remedy in this affection. But its efficacy is not now
much depended upon. Its effects are obtained in most
cases either by giving a considerable quantity in small
doses frequently repeated or by a large dose at intervals
at once. In the first case it requires a considerable
time to put the system under its influence; & in the
latter we may destroy our patient. It is therefore not
to be used in an affection which requires prompt relief;
The opinion which prevails, that it may be used as a
substitute for the lancet is injurious. There is nothing
in fact which can be substituted for this instrument
when reduction of the arterial force is required. If a
=minution it is to be given in small doses.

Nitro has been recommended with a view to its refrigerant
effects. By Dr Parr it is said to be most effectual when

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swallow in cold water whilst dissolving. Ten grains may be given 3 or 4 times in this manner in urgent cases.

I have now ^{arrived} at the consideration of a class of remedies, about which there is considerable dispute viz Emetics. The efficacy of these medicines depends principally I suspect upon the nature of the case in which they are used.

They cannot be considered as proper in the generality of profuse bleedings from the lungs. In such they ought only to be used as dernier resort. But when the quantity of blood is but small in quantity and seems to proceed from the tubes or merely from the Bronchial Arteries, they may be administered with great advantage. Their operation in such cases tends to restore the equilibrium of the circulation, by determining to the surface, relaxing the spasmoties & procuring a free perspiration.

Their efficacy in all cases was strongly advocated by Dr B. Robinson of Dublin. Cullen was induced to try them, but conceiving that they greatly increased the discharge in one instance, ~~greatly~~ endangering the life of the patient, he laid them aside & proscribed them entirely.

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Not although Emetic Sulphur Tartar is inadvisable in the more violent cases, on does long enough to vomit, it is certainly very useful when given so as to procure its nauseating effects.

By Dr. Morely the vitriolic solution has been strongly recommended. In this practice he is supported by Dr. = Barton, who thought the remedy very efficacious.

I have been taught to consider *Spicaeana* as an article in which confidence is to be placed. It is to be continued in small doses so as to produce nausea which should be kept up for some time.

The mineral acids have also been used. The best of them is the sulphuric acid, given in the dose of 10 or 20 drops with a proper proportion of water, every hour. Its beneficial effects may be derived from the Elixir Vitrioli. Most of the Narcotics have also been used with a view to procure their sedative effects. But Opium may be said to supply the place of all the rest of this class. The utility of this medicine in many instances is too well attested to admit of a doubt. As it is usually a stimulant

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It might very properly be considered as contra-indicated, did not
 experience bear testimony of its salutary operation. Dr
 Chapin's remarks, that in speculating upon this article,
 we should bear in mind the peculiarity of its effects.
 "When I have directed Opium (continues He) it has -
 generally been in cases where great pulmonary exci-
 -tation existed, accompanied with a cough. No one
 will dispute the propriety of using Opium in such
 cases, though there may be great arterial excitement at
 the time. Irritation of the lungs & more particularly the
 cough has the effect of continuing the hemorrhage & by
 removing these we arrest it.

There are some general indications with regard to
 the management of the patient which must be answered.
 I shall make an extract of these from Dr. Chapin's
 Lecture on Haemoptysis.

1st The moment you are consulted in a case of this na-
 -ture, you are to direct that your patient be put in
 a state of complete rest, with his shoulders somewhat
 elevated. 2^d the room should be kept cool & well ventilated.

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This is a matter of great importance. It is also proper that company be excluded, & the patient must not even be suffered to enquire into any event that may occur, the nurse asking a question has been known to excite a return of the hæmorrhage. 3^d the diet should consist of small portions of demulcent drinks. It is essentially necessary that the stomach should not be overladen with aliment or drink.

4th It is a matter of considerable importance that the bowels be kept in a soluble state. But no great advantage would result from active purging. In administering purgatives we must be careful not to use magnesia, as it is very apt to excite coughing & thus produce a recurrence of the bleeding.

Most of the bleedings from the lungs to which we are allude are of an active nature. But we occasionally meet with cases of an opposite kind requiring a treatment very different. These are denominative passive hæmorrhages. All such cases are to be treated alike whether they are primarily or secondarily of a passive nature.

Tonic are of course to be freely used. Of these the Bark

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is certainly the best. Dr. Chap. observes that the best mode of exhibiting this tonic is to combine it with some chalybeate. Of these he prefers the Mineral tincture of Iron or the green sulphate.

The vegetable astringents are of so little consequence that it is not necessary to dwell on their administration. I have now finished the consideration of the means to be employed during the hæmorrhage. I am next to speak of their proper after this hæmorrhage ceases, and although there are much fewer in number & more simple in their character; yet they are perhaps more important than the preceding.

The object of these remedies is to prevent a recurrence of the disease & consequently, to arrest this in its advance towards pulmonary Consumption. As a sanguine & irritable state of the system is very inimical to our efforts. We should therefore enforce the Antiphlogistic regimen in all its rigour & bid the impatient to adhere to it most rigidly. The best efforts of the physician & the most unremitting attention on

his part is frequently renewed unawares by a single
 impression on the part of the patient. In a short
 time after the attack has occurred we find him to
 regain his confidence & spirits, & under these circumstances
 believing that he is perfectly cured, he is very apt -
 secretly to depart from our regulations. We should
 guard him in the most unperceived manner from this
 fatal security, & convince him that his life depends
 upon his strictly complying with our directions with regard
 to diet, clothing &c. - The diet should consist of the lightest
 article & the patient must not even be suffered to load
 his stomach with them. Animal food must for some
 time be totally abandoned. He should wear flannel
 next the skin. And his bowels should be kept open.
 He should particularly avoid exposure to the bright
 air. It is important that he should exercise on
 horseback but must not carry it to such an extent
 as to fatigue himself. His ride must be commen-
 -ced in the morning after sunrise & in the evening
 before sunset so as to avoid both the oppressive heat

of the Sun, & the damp air of twilight. He must
 avoid a hot fire or a room where the air is very much
 rarefied by heat. In fire nature must not be ob-
 structed in her restorative operations, by any
 impudent acts; as his safety depends entirely
 upon a due regard to the condition of his system, & a firm
 resolution to abide by the treatment this condition
 calls for.

Finis

